STAND-ALONE AUTOMATION AND REMOTE CONTROL SYSTEM FOR MANAGING HYDRAULIC COMPONENTS

Consortium monitoring, automation and remote control system equipped with WinNET7 management and display system complete with integrated specialised alarm and software packages

Supply: **2013/2016** | Region: **Friuli Venezia Giulia**

CHALLENGE

Execution of a stand-alone monitoring, remote control and automation system able to automatically manage, monitor and manage hydraulic components.

WHY ETG?

The wealth of experience that ETG has acquired in the weather instrumentation sector and in real-time monitoring data acquisition, archiving, processing and circulation makes it a valuable collaborator.

INTRODUCTION

The monitoring, automation and remote control system in question consists of **over 170 stations** communicating through an **SHN** ("Super High Frequency") regional radio backbone with redundancy from a provincial **UHF** ("Ultra High Frequency") radio network made up of **17 repeaters**.

The monitoring stations communicate through the radio network with a control centre on which the ETG platform - called WinNET7 - was installed and that is equipped with specialised packages, the main ones of which are: **Video Package, Alarm Package, Hydraulic Package and Water Package**.

The system is therefore totally integrated and can be used from any mobile or landline device connected to the Internet. Furthermore, special alarms agreed upon with the customer were configured on these devices. They are necessary for notifying malfunctions on the monitored system or considerably important situations such as going past a hydrometric threshold or pressure in the pipes.

SOLUTION

The system, made up of the elements described above, is able to monitor weather and hydrologic parameters and to control the system and its hydraulic and mechanical components remotely.

The system is made up of:
- **66 Hydraulic Adjustment Points**
- **9 Hydroelectric Power Plants**
- **4 Delivery Units**
- **21 Pumping Plants**
- **6 Photovoltaic Systems**
- **13 Weather Stations**

BENEFITS

The remote control system built by ETG has allowed the Consortium to enjoy **many benefits** compared to the manual system it had previously.

In a system like the previous one, all the activities in the field were performed by Consortium technicians, who at any time of day or night manually carried out the activities when responding to reports or checking and working directly in the field. Activities like hydraulic adjustment, reclamation and irrigation demand a very high number of operations. In changing from manual to automatic, these operations have exponentially reduced the costs due to movements and speed of operation in the field. This offered enormous savings in economic terms and a considerable optimisation of the human resources employed. A system built this way was totally integrated in the platform designed by ETG, which goes by the trade name WinNET7. This application guaranteed that the Consortium would have complete knowledge of the network's state, thus allowing it to totally monitor it also using graphic supports and a customised alarm service used by the personnel on call. Thanks to this alarm system, critical situations came to light early, and the channels adequate for promptly resolving them were automatically activated.

The Consortium also frequently used high resolution camera to monitor the system for the safety and control of the systems installed.

CONCLUSION

Every new monitoring system engineered by ETG entails peculiarities that can be solved only by those - like our company - that have been working in the sector for years.

In the case of the system built for Consorzio di Bonifica del Cellina Meduna, the major challenge ETG had to face was to take such a complex system made up of such different elements and situations and integrate it in a software platform that would provide complete monitoring and totally manage its functions.

In this way, the system became simple and easy to manage, even with mobile devices like mobile phones and tablets.